Identification of toxicological biomarkers of paroxetine in hepatocytes using proteomic analysis

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Abstract :

Purpose: Paroxetine is antidepressant drug used as first line treatment in various depression disorders. With few reports of acute liver failure the effect of paroxetine on liver is very less studied. To understand the effect on paroxetine on liver cells we studied the effect on protein expression in cultured hepatocytes.

Methods: Hepatocyte cells were treated with paroxetine and its effect on protein expression of hepatocytes determined by gel electrophoresis (SDS and 2-D). Cytotoxicity was assessed using the MTT assay. ANOVA method with Tukey's test to identify differences between the exposure and control groups.

Results: Hepatoglobin, serotransferrin, Apolipoprotein level was increased while levels of hemopexin, Alpha-2-HS-glycoprotein decresed. Using String db tool role/function of identified proteins was identified. These identified proteins can be investigated further for the complete understanding the mechanism or biomarker development for the paroxetine induced liver injury.

Keywords: Animal proteomics, Biomarkers, Hepatocytes, Comet assay, PAGE, 2D-PAGE.

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